either by automatic devices or otherwise, as fast as they are made, and the mill and machinery kept perfectly clean, there is little danger that fine dust will accumulate in out-of-the-way corners, or anywhere, to furnish the means of kindling at some unlucky moment a fire which can never be accounted for. And this is the only way in which dust explosions can be guarded against. It is almost impossible to prevent the use of exposed lights in mills in some shape or other, and if dust is lying about where it ought not to be —and it surely ought not to be in any well-conducted cabinet-shop—it is almost certain to be some time or other stirred up under circumstances which are extremely favorable for its explosion.

It is not many years since the professional architect thought it beneath his dignity to design cabinet-work, or pay attention to decorative painting. Now, however, some of the best minds in the profession can be engaged in designing new furniture, and the departure has neither lowered the dignity of the profession nor the artistic character of the work. Indeed, we are inclined to think that houses of any pretension, built under the supervision or from the plans of an architect, should have all the furniture required for its complete equipment designed and executed under the eye of the same architect. We have sufficient faith in the abilities of our architects to believe that, if this system was adopted, our houses would be more consistently furnished, and the manufacturers would be benefited by getting orders for a more substantial and better class of work.

Parties desiring back numbers of the Wood-Worker can get them in single numbers by addressing this office and enclosing the price. Those wanting the first six numbers can have them, bound in limp covers, with a gold title on the cloth cover, by remitting sixty cents to the publisher.

"Hints on Estimating," a little pamphlet of thirty-two pages, has been published in this office. It is an excellent work for builders. We send it to any address in Canada or the United States for six cents.

Lessons in Projection.

By Robert Riddell, Teacher of the Artisan Class in the High School, Philadelphia, Pa.

One of the most difficult problems in carpentry to thoroughly understand is that of inclined framing. To find the shoulder and other cuts of each particular piece has long taxed the ingenuity of our best workmen, and many attempts to render the discovery of these lines less complicated have been made, but in most cases the results have not been satisfactory. Now, however, for the first time, I offer a perfectly reliable method for the finding of these lines, and one which may be easily tested and as easily understood if the following directions are closely followed :

Let us suppose the plan to be a right-angled figure, having sides which incline or flare equally to any desired angle. A corner post is also used which will incline same as ends and sides. The junction at the angles may either be formed by mitreing or by butt joints.

To describe the problem, begin by drawing two parallel lines, A B, and D C, Plate 54, any reasonable distance apart. Assume A N as inclination or flare of sides. From N square down a line making N A and N R equal. From A square down a line cutting D, join R D and in the angles thus formed find bevel 2 for cut in face of sides.

To find the bevel for mitre on edge of stuff, take N as a centre and describe an arc, touching the line A B and terminating at J. From R draw a line through J indefinitely. This gives bevel 3 for the mitre.

To find the corner post, proceed as follows: Make N C equal N D, join R C, and extend A N to cut R C at P, from which square up a line cutting at B. From N draw through B, thus forming both angles of the corner post, and giving bevel 4, which answers for either a butt joint, or the shoulder cuts on cross rails of framing.

Nothing can be more simple or more accurate than this method, and, as already mentioned, its correctness may be easily tested by first drawing the "spread-out," as shown on the upper portion of the Plate, on card-board, and cutting through on the lines marked x x x x ; then fold on the lines marked o o o. Bring the points S and S together, and the mode of construction will readily be understood.

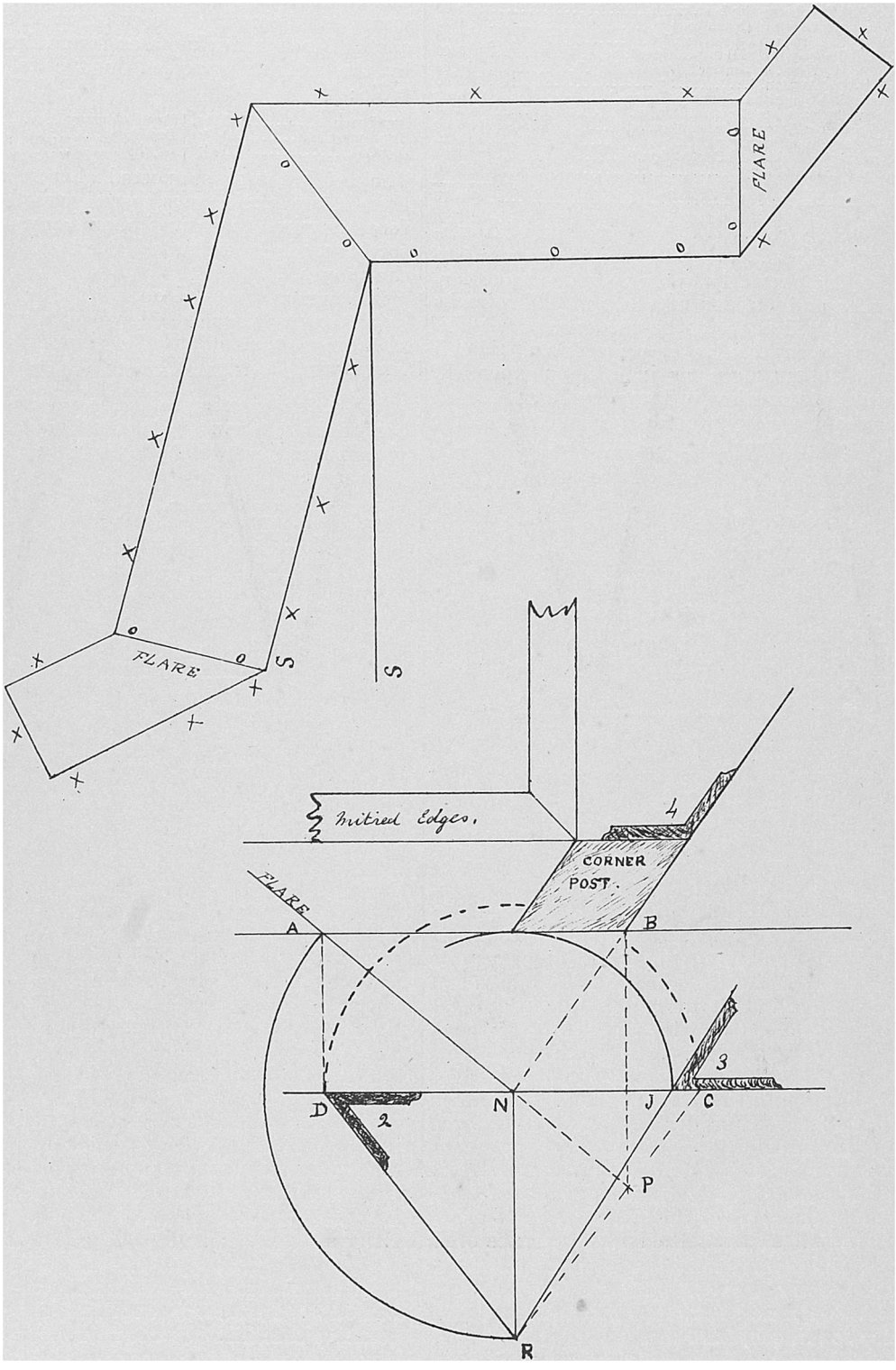
The flare may be any angle ; the result will always be the same.

We shall next proceed to show the construction when the sides are to flare and make different angles. This problem is frequently required in carriage and other work.

Isometric Projection.

In Fig. 8, Plate 31 (April number), we give at *a* the plan of top, at *b* the side, and at *c* the end elevation of a box, all of which are comprised in one isometrical drawing, as in Fig. 3, the mode of construction of which we now explain. Draw a right-hand isometrical line *a b*, Fig. 3, making it equal to the line *e d* in Fig. 8; next draw the left-hand isometrical line *a c*, Fig. 3, equal to the line *f g* in

PLATE 54.



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